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| EXAMINER |
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STEVENS, BRIAN J

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| ART UNIT | PAPER NUMBER |
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2611

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06/24/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

| | | | |
|------------------------------|--------------------------------------|---|--|
| Office Action Summary | Application No. 10/591,542 | Applicant(s) RAZZELL, CHARLES | |
| | Examiner Brian J. Stevens | Art Unit 2611 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16 is/are allowed.
- 6) ☒ Claim(s) 1-4,6,11 and 12 is/are rejected.
- 7) ☒ Claim(s) 5,7-10 and 13-15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 September 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on September 1st, 2006 are being considered by the examiner.

Drawings

2. The drawings are objected to because the unlabeled rectangular box(es) shown in the drawings should be provided with descriptive text labels. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claim 1 is objected to because of the following informalities: contains two steps of b). Appropriate correction is required.

Specification

4. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

5. As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Art Unit: 2611

6. The specification is objected to because of the following informalities: headings are missing. Appropriate correction is required.

Allowable Subject Matter

7. Claim 16 is allowed.
8. Claims 5, 7-10 and 13-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1, 6, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2004/0166799 A1 by Kral in view of US 2004/0120424 A1 by Roberts.
12. Regarding claim 1, Kral teaches the knowledge of a method of synchronizing to an ultra wideband signal and receiving a partially serialized, sequence keyed, ultra wideband symbol, comprising:

Art Unit: 2611

a) operating a first plurality of oscillators (See Figure 5B, [318A] and [318A]), and each one of the first plurality of oscillators selectively coupled (See Paragraph [0071], “where one VCO 318 is selected based on the desired frequency for the I and Q LO signals 206a,b”); to a respective one of a plurality of parallel receiver paths (See Claim 12, “a receiver, comprising: generating a plurality of local oscillator signals” and “outputting said plurality of local oscillator signals to a plurality of corresponding amplifiers; enabling one of said amplifiers to select one of said local oscillator signals for tuning said receiver,”)

b) maintaining a second plurality (See Figure 5B, [318C] and [318D]) of oscillators in a non-operational low-power state (See Paragraph [0072], “The loop filter 320 generate a voltage according to the charge pump current 321, which tunes the frequency of the selected VCO 318 to remove any frequency and/or phase difference between the output 313 and the reference signal 325”, thus in a non-operation state based upon the charge pump);

b) maintaining the plurality of parallel receiver paths (See Figure 5B); but does not teach

c) determining based at least in part upon an output of each of the plurality of parallel receiver paths, whether a synchronization sequence has been received;

d) receiving a first portion of a partially serialized, sequence keyed, ultra wideband symbol;

e) operating if the determination of c) is affirmative, a second plurality of oscillators and

g) receiving a second portion of the partially serialized, sequence keyed, ultra wideband symbol.

Kral further teaches f) selectively coupling each one of the second plurality of oscillators(See Paragraph [0071], “where one VCO 318 is selected based on the desired frequency for the I and Q LO signals 206a,b”) to a respective one of the plurality of parallel receiver paths (See Claim 12, “a receiver, comprising: generating a plurality of local oscillator signals” and “outputting said plurality of local oscillator signals to a plurality of corresponding amplifiers; enabling one of said amplifiers to select one of said local oscillator signals for tuning said receiver,”), is well known in the art.

Roberts teaches the knowledge of c) determining based at least in part upon an output of each of the plurality of parallel receiver paths, whether a synchronization sequence has been received (See Paragraph [0360], “The receiver 1520, 1720 correlates the received code word with k possible code words to generate 1.sup.st through k.sup.th correlation values (Step 2030), and then compares the 1.sup.st through k.sup.th correlation values to determine the b-bit data sequence that the received code word represents”);

d) receiving a first portion of a partially serialized, sequence keyed, ultra wideband symbol (See Paragraph [0002], “The present invention relates to ultrawide bandwidth (UWB) transmitters, receivers and transmission schemes. More particularly, the present invention relates to a method and system for sending data across a UWB signal using M-ary bi-orthogonal keying.”)

e) operating if the determination of c) is affirmative, a second plurality of oscillators (Claim scope is not limited by claim languages that makes optional but does not require steps to be performed, or by claim language that does not limit a claim to a particular structure, See MPEP 2111.04) and

g) receiving a second portion of the partially serialized, sequence keyed, ultra wideband symbol (See Paragraph [0002], "The present invention relates to ultrawide bandwidth (UWB) transmitters, receivers and transmission schemes. More particularly, the present invention relates to a method and system for sending data across a UWB signal using M-ary i-orthogonal keying."), is well known in the art.

13. It would have been obvious to one of ordinary skill in the art, having the teachings of Kral and Roberts before them at the time the invention was made to modify the teachings of Kral to further include determining based at least in part upon an output of each of the plurality of parallel receiver paths, whether a synchronization sequence has been received; receiving a first portion of a partially serialized, sequence keyed, ultra wideband symbol; operating if the determination of is affirmative, a second plurality of oscillators and receiving a second portion of the partially serialized, sequence keyed, ultra wideband symbol. There are a finite amount of signals a receiver can receive and one skilled in the art would be motivated to try uses UWB signals and rather than relying on the oscillators constantly running, one would be motivated to determine when and which oscillators would run based upon a trigger such as a synchronization sequence. One of ordinary skill in the art would therefore have been motivated to make the modification to further include determining based at least in part upon an output of each

Art Unit: 2611

of the plurality of parallel receiver paths, whether a synchronization sequence has been received; receiving a first portion of a partially serialized, sequence keyed, ultra wideband symbol; operating if the determination of is affirmative, a second plurality of oscillators and receiving a second portion of the partially serialized, sequence keyed, ultra wideband symbol.

14. Regarding claim 2, Kral together with Roberts taught the method of claim 1, as described above. Kral further teaches wherein each of the plurality of receiver paths receives an in-phase and quadrature version of the outputs of the oscillators coupled thereto (See Paragraph [0017], “the integrated tuner is configured for in-phase (I) and quadrature (Q) operation. Therefore, the LO generation circuit generates I and Q differential LO signals. Furthermore, the differential direct conversion mixer includes I and Q mixers that generate corresponding I and Q baseband signals. The I and Q baseband signals are received by corresponding first and second tunable low pass filters, and corresponding first and second DC compensation circuits”), is well known in the art.

15. Regarding claim 6, Kral together with Roberts taught the method of claim 1, as described above, the same rationale of rejections is applicable, wherein the method steps further comprise the modules for performing respective function/steps discussed therein, the same rationale of rejections is applicable.

Art Unit: 2611

16. Regarding claim 11, Kral together with Roberts taught the method of claim 1, as described above, the same rationale of rejections is applicable, wherein the receiver further comprises the modules for performing respective function/steps discussed therein, the same rationale of rejections is applicable.

17. Regarding claim 12, Kral together with Roberts taught the receiver of claim 11, as described above. Kral further teaches wherein each receiver path further comprises a pair of analog-to-digital converters (See Paragraph [0132], "Control signal 1706 can be a digital signal so as to select one or more of the individual resistors in each respective resistor bank. In order to produce a digital control signal 1706, the analog-to-digital converter 1730 can comprise a comparator 1712 coupled to a SAR 1714."), is well known in the art.

18. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2004/0166799 A1 by Kral in view of US 2004/0120424 A1 by Roberts, in further view of US 2002/0089804 A1 by Chea, JR.

19. Regarding claim 3, Kral together with Roberts taught the method of claim 1, as described above, but do not teach wherein the non-operational low-power state comprises a de-energized state.

Chea further teaches wherein the non-operational low-power state comprises a de-energized state (See Paragraph [0041], "the signal Q is a logical 1, the relay driver 207 will energize the relay K.sub.p 208. On the other hand, if the detected signal

Art Unit: 2611

produces a logical 0 at the latch F1 206 output, the relay K.sub.p 208 remains in its de-energized state”), is well known in the art.

20. It would have been obvious to one of ordinary skill in the art, having the teachings of Kral, Roberts and Chea before them at the time the invention was made to modify the teachings of Kral and Roberts to further wherein the non-operational low-power state comprises a de-energized state. There are finite amount of non-operational low-power states and one would be motivated to try having a de-energized state. One of ordinary skill in the art would therefore have been motivated to make the modification to further include wherein the non-operational low-power state comprises a de-energized state.

21. Regarding claim 4, Kral together with Roberts taught the method of claim 1, as described above, but do not teach wherein the non-operational low-power state comprises an energized, non-switching state.

Chea further teaches wherein the non-operational low-power state comprises an energized, non-switching state (See Paragraph [0002], “The present invention relates to systems and methods for protecting devices (switching and non-switching) such as micro electro-mechanical system (MEMS) and electronic relay devices in telecommunication systems”), is well known in the art.

20. It would have been obvious to one of ordinary skill in the art, having the teachings of Kral, Roberts and Chea before them at the time the invention was made to modify the teachings of Kral and Roberts to further wherein the non-operational low-

Art Unit: 2611

power state comprises an energized, non-switching state. There are finite amount of non-operational low-power states and one would be motivated to try having energized, non-switching state. One of ordinary skill in the art would therefore have been motivated to make the modification to further include wherein the non-operational low-power state comprises an energized, non-switching state.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Stevens whose telephone number is (571)270-3623. The examiner can normally be reached on M-F 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Payne can be reached on 571-272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/591,542
Art Unit: 2611

Page 12

/BS/
/Brian J. Stevens/

/Dac V. Ha/
for David Payne, SPE of Art Unit 2611